



California State Fire Marshal **CODE INTERPRETATION**

Date Issued	July 27, 2007	Interpretation	06-124
Topic	Healy Clean Air Separator (CAS) Tank as a "Vapor Processing Unit"		
Code Section(s)	CFC 5202.13.3.9		
Requested by	Don Foster Gettler-Ryan Inc. 1364 N. McDowell Blvd, Suite B2 Petaluma, CA 95954		

The California State Fire Marshal has accepted the UL certification of the Healy Clean Air Separator (CAS) Tank as a "Vapor Processing Unit". 2001 CFC Section 5202.13.3.9 indicates that the vent termination from vapor processing units shall be not less than 8 feet above the processing unit itself.

All of the Healy Installation materials and the California Air Resources Board Executive Order VR-202-A exhibits indicate that the underground storage tank pressure vacuum vent valve termination need only be located 12 feet above grade. No reference is made to the 8 foot separation requirement.

We have two Questions for your consideration and interpretation:

1. Does the UST pressure vacuum vent valve need to be located 8 feet above the CAS Tank as indicated on the attached Detail 1?

No. The design of the CAS is such that all vapors from the UST are completely trapped within the "bladder" contained in the CAS. The vent coming from the CAS is to vent the interstitial space between the bladder and the outside wall of the CAS. (See footnote below)

2. Is the Healy CAS Air Breather Assembly considered an underground tank vent in the context of NEC Article 514, Group D, Division 1 and 2 Hazardous Locations?

As described in the above, the UST is "vented" to the bladder contained within the CAS and by design, no vapors are emitted to atmosphere. (See footnote below)

Foot note: The intent of this footnote is for reference only and to provide clarification. It is not the intent of the State Fire Marshal to endorse any one specific product, device or methodology.

Description of Operation of the Healy Clean Air Separator™:

The Healy Systems, Inc., Model 9961 Healy Clean Air Separator™ is a stand-alone, completely mechanical device that assists in controlling the gasoline vapor emissions from a gasoline dispensing facility. It consists of a 400-gallon storage vessel with integral bladder and associated valving. It is connected to the ullage space of the GDF storage tanks via the venting system of the under ground storage tanks. During normal operation of the GDF, with today's concentration of ORVR vehicles approximating 20%, the storage tank ullage space will usually operate in the "0" to negative (up to 8" WC P/V cracking pressure) pressure range. During "closed" periods of the GDF, the ullage pressure will usually begin to increase due to vapor growth inherent in the process of introducing air into the UST's. If the pressure goes slightly above atmospheric the vapor from the UST's will flow into the internal bladder. Conversely, when ORVR refueling begins and the UST pressure falls below atmospheric, the vapor internal to the bladder will be drawn back into the UST until the bladder is fully collapsed waiting for the next cycle.

The Clean Air Separator™ in over two and one half years (installed late September of 2002) of being in operation at our C.A.R.B. test site in Sacramento has been evaluated repeatedly to see if there is any liquid condensation in either the bladder or the space between the inner wall of the vessel and outer wall of the bladder. To date there has been no liquid found in either area.